

**ELECTRONIC DEVICE HAVING A DIFFUSION BARRIER REGION  
INCLUDING ALUMINUM AND A METHOD OF MANUFACTURE THEREFOR**

**ABSTRACT OF THE DISCLOSURE**

The present invention provides an electronic device having superior qualities. The electronic device includes an active region located over a substrate and an undoped layer located over the active region. The electronic device further includes a doped upper cladding layer located over the undoped layer, wherein a diffusion barrier region including aluminum is located between the undoped layer and the doped upper cladding layer. In an exemplary embodiment of the invention, the diffusion barrier region is a diffusion barrier layer or a number of diffusion barrier layers located between a plurality of the undoped layers.